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ABSTRACT

A follow-up of 1983 Idaho high school graduates who had participated in secondary vocational education sought to determine program effectiveness and efficiency. Idaho public school graduates of 1983 were the population. Data were collected from transcripts and two different mail questionnaires. The Idaho Student Followup questionnaire assessed employment history, current employment situation, and job satisfaction. The Idaho Employer Followup questionnaire obtained employers' ratings of Idaho high school graduates. Usable data were obtained from 2,073 of 2,425 transcripts, 1,381 of 2,112 students, and 73 percent of the 442 employers named by students. Findings showed that both vocational and nonvocational concentrators would favor a college preparation curriculum, if they could do it over. The only significant differences in first jobs were that the nonvocational concentrators had more jobs in the service worker category and vocational concentrators had more in the laborer category. Vocational concentrators experienced fewer major problems in finding their first job. Five years after graduation, more vocational concentrators were self-employed, fewer were unemployed, and fewer were still continuing their education. Both groups had about the same overall level of satisfaction with their current job. Employers did not rate the groups significantly differently. (An attached commentary summarizes public education changes that have significantly affected vocational education since 1983.) (YLB)

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High School and

B E Y O N D

A Profile of Idaho's 1983 High School Graduates

Comparing students who had concentrated their studies in vocational education with students who had not concentrated their studies in vocational education

DECEMBER 1990

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DIVISION OF VOCATIONAL EDUCATION

650 West State Street Boise, Idaho 83720 (208) 334-3216 (FAX (208) 334-5315

December, 1990

Colleagues and Friends,

The benefit of vocational education programs in Idaho's public schools can be measured in a number of ways. One good way is to follow up students after they complete high school and ask them about the program in which they participated. Effective measures of performance are essential so vocational education continues to provide the outcomes expected by students, parents and employers, and so school officials have the information needed to make proper adjustments in their programs.

Since 1978, Idaho's vocational education programs have been evaluated through annual follow-up studies conducted at the state level. The results of these studies are revealing and helpful in determining how to improve programs. However, there has been a need to look at the benefits of vocational education several years after graduation.

High School and Beyond is the first long-range, follow-up study of graduates from Idaho's public schools. It compares students who concentrated studies in vocational education with students who did not. This document includes the Executive Summary of the research study. A commentary is provided at the end of the document, as there have been several significant changes in public school education since the graduates of 1983 attended high school.

Appreciation is expressed to the Agricultural Experiment Station at the University of Idaho and to Drs. Lou E. Riesenberg and Laurie A. Stenberg for their hours of work and attention to detail.

Your comments are welcome!

Sincerely,

Trudy Anderson, Ph.D.
State Administrator

Equal Opportunity Employer

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EXECUTIVE SUMMARY

A PROFILE OF HIGH SCHOOL AND BEYOND EXPERIENCES OF 1983 IDAHO HIGH SCHOOL GRADUATES DESCRIBED WITHIN THE HIGH SCHOOL CURRICULUM CONCENTRATION OF THE GRADUATES

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A research study conducted under the auspices of the Agricultural Experiment Station, University of Idaho for the State Division of Vocational Education.

INTRODUCTION

In 1984, the National Commission on Secondary Vocational Education wrote the following about the status of secondary vocational education in the nation.

> Our society is obsessively concerned with higher education as a preparation for work and downgrades the intrinsic, lifelong value of education. Our secondary schools reflect this obsession by valuing only the college bound. Such a narrow focus ignores the fact that approximately 80% of the jobs in America do not require a college degree, and most students will not obtain one.
>
> This educational myopia that pervades our society produces predictable results.
>
> Many high school graduates cannot read, write, compute, or perform well enough to find meaningful work during or following high school.
>
> Many high school graduates, holding their unmarketable degrees, face disillusionment when their professional expectations collide with reality. They are unable to recognize the intrinsic value of their education or understand its relevance to their personal goals.
>
> High school vocational education is downgraded and assigned second-class status, especially trade and industrial programs. Some of the most successful programs, such as clerical and computer studies, are reluctantly listed as such.

If the description of secondary education by the National Commission on Secondary Vocational Education is accurate, it would seem reasonable to expect high school graduates to **also** have a negative opinion about their high school experience, especially if these students have been in the "real world" long enough to have experienced the calamities addressed above.

PURPOSE

It was the purpose of this study to develop an organized plan for ascertaining the post high school employment and educational status of participants of secondary vocational education programs and the relationship of that status to the vocational education received.

An interest in the perceptions of high school graduates, grouped by vocational concentrators and non-vocational concentrators, concerning their high school experience and a need to know "what happens" to students after they leave high school formed the basis for this investigation.

The purpose of this study was also to follow-up a sample of 1983 Idaho high school graduates who had participated in secondary vocational education to determine the effectiveness and efficiency of Idaho's secondary vocational education.

PROCEDURES

Selection of Population and Sample

Idaho public high school graduates of 1983 were the population of this study (**12,130 graduates**). These graduates of 1983 were selected because they have been out of high school for five years.

Idaho public high schools (**121 schools**) were stratified according to the state athletic classification schema of four divisions based on high school enrollment: A-1, A-2, A-3, and A-4. From each strata, a proportional random sample of high schools was drawn (**40 schools**).

Class rosters of the 1983 graduates were solicited from each selected high school. Thus, graduates were clustered by high school. Class rosters from each strata were proportionally sampled.

The sample was selected using a systematic (with a random start) sampling procedure. This sampling procedure ensured a representative sample of Idaho high school graduates.

The high school graduates were asked to identify their current employer, including name and address, as a part of the follow-up questionnaire.

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Instrumentation

Data were collected from high school transcripts and two different mail questionnaires.

The Idaho Student Follow-up questionnaire (ISF) was designed to assess Idaho high school graduates as to their employment history, current employment situation, job satisfaction, employer name and address, and other pertinent information. Questionnaire items were created or modified as needed to answer the stated criterion questions.

Questions were validated by a panel of judges deemed to be experts in the area of follow-up studies. A pilot test of the questionnaire was conducted using approximately 75 students enrolled in vocational technical programs at one of the postsecondary vocational-technical institutions.

The Idaho Employer Follow-up questionnaire (IEF) was designed to obtain employers' rating of Idaho high school graduates. Items from existing questionnaires were adapted and original items were developed to gather data from employers. As with the ISF, the IEF was validated using a panel of experts. A pilot test of the instrument with 25 businessmen/women and employers was conducted prior to actual administration.

Data Collection

Transcripts of the high school graduates were collected through local high school personnel. After the sample had been randomly selected, letters to school personnel including principals and guidance counselors were sent requesting transcripts for each graduate in the sample.

A mail survey to both high school graduates and employers was conducted. Dillman's Total Design Method was utilized to ensure a high return rate. For example, personalized cover letters, booklet questionnaire design and printing, self-addressed, stamped, return envelopes, and follow-up mailings at appropriate intervals to nonrespondents were used.

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Data Analysis

Transcripts were coded according to the Secondary School Course Taxonomy (SST) established for the National Vocational Education Follow-up Study. The SST comprised four principal curriculum areas: academic, vocational, personal/other, and special education. The academic curriculum was divided into six subject areas: mathematics, science, English, social studies, fine arts, and foreign languages. These subjects were further subdivided by fields such as social science, biology, chemistry, and physics.

The vocational curriculum comprised three major categories: specific labor market preparation (SLMP), general labor market preparation (GLMP) and consumer and homemaking education (C&HE). The category (SLMP) was divided into seven vocational subjects: agriculture and renewable resources, business, marketing, health, occupational home economics, trade and industrial, and technical and communications.

Sample Size and Response Rate

An total of 2425 graduates were selected from the class rosters to be included in the sample. Four school decided not to participate further. The remaining 36 schools provided 2073 usable transcripts and addresses for 2112 of the graduates in the sample. Of the 2112 Idaho Student Follow-up (ISF) questionnaires initially mailed, 787 were returned as undeliverable, primarily because the graduates had moved from the address supplied by the high school. Therefore, the sample of this study for the data from the transcripts numbered 2425 and for the data from the ISF mailed questionnaire numbered 1381 students. Employer names and addresses were supplied by 442 of the graduates returning an ISF. The response rate to the ISF was 53 percent and to the IEF 73 percent. (A response rate of 25 to 40 percent is common for surveys of this type.)

For the purposes of this study, vocational concentrators were defined as students who had invested ten (10) percent of their total high school credits in a specific vocational area of study. Credits in courses defined as general labor market preparation (GLMP) and offered under the vocational education umbrella, such as personal typing, were not counted when determining the curriculum concentration.

FINDINGS

The High School Years

Students who had concentrated in vocational education took slightly more total credits in high school than did students who had not concentrated in vocational education. Vocational education concentrators took an average of 10.3 credits in approved vocational education courses, excluding general labor market preparation (GLMP) courses. Students who were not vocational education concentrators took an average of 3.1 credits in approved vocational education subject matter areas. Few students (11.7%) took no courses in vocational education.

High school measures of achievement (GPA and class rank) showed a slight difference with vocational concentrators being lower, however, the investigators found no practical significance to the differential.

A comparison of college entrance test scores (ACT), while usually taken only by students planning to go to college, showed vocational concentrators having slightly lower scores in mathematics and English. Those graduates having concentrated study in trade and industry vocational education earned significantly higher mathematics scores than did other vocational concentrators and slightly higher scores in the other ACT tests than did the other vocational concentrators.

The graduates categorized their high school curriculum as follows: a general education curriculum (49%), a college preparation curriculum (31%) and a vocational education curriculum (10%). The graduates' self-reporting was inconsistent with actual curriculum revealed through the transcript analysis. The transcript analysis indicated over 35 percent of the graduates had concentrated studies in vocational education. It is important to note that more of the graduates concentrated in vocational education than the graduates themselves realized.

To the question, "If you had it to do over, what type of curriculum would you choose today", both vocational and non-vocational concentrators indicated they favored a college preparation curriculum. A vocational education curriculum was the second preference for both groups of graduates. The graduates seemed least enthused about a general education curriculum.

How satisfied, five years later, were vocational and non-vocational education concentrators with their high school curriculum? Satisfaction with their high school curriculum was slightly higher among the non-vocational concentrators, but no difference was found in the satisfaction with their overall high school experience between the two groups of graduates.

The graduates overwhelmingly reported they themselves were the person assisting most with high school curriculum planning. Non-vocational concentrators cited parents at a rate of 19% while vocational concentrators cited parents at slightly more than 12%. Counselors and teachers were cited a distant third by both groups of graduates.

More than 18 percent of the vocational concentrators indicated their current job was very related to the job for which they planned in high school. Fifteen percent of the non-vocational concentrators reported their current job was very related to the job for which they planned in high school. Over 50% of both groups indicated their current job was not related to their high school plans **or** they had not made job plans in high school.

First Year after High School

Three months after high school (Fall, 1983), vocational concentrators were either employed full or part-time (51%), attending a vocational-technical institution (8.1%) or attending a college or university (30%). The non-vocational concentrators were attending a college or university (51%), attending a vocational-technical institution (4.2%) or employed full or part-time (31%).

Of the graduates who had not completed a baccalaureate degree at the time of this study, 17% of the non-vocational concentrators were not employed and not continuing their education during the fall of 1983, while only 12% of the vocational concentrators were not employed and were not continuing their education during the fall of 1983.

In terms of their first jobs, the only significant differences found between the non-vocational concentrators and the vocational concentrators were the non-vocational concentrators had more of their jobs in the service worker category and the vocational concentrators have more of their jobs in the laborer category. Salaries for the laborer category were higher than the service worker category.

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Vocational concentrators experienced fewer major problems in finding their first job than did non-vocational concentrators. Of the graduates that indicated a major problem finding their first job, both groups cited lack of experience at the same high rate and the vocational concentrators cited lack of education at twice the rate than did the non-vocational concentrators.

Five Years after High School

Five years after high school, 23.7 percent of the vocational concentrators had attended a postsecondary vocational-technical institution and over 20 percent had graduated. Over 13 percent of the non-vocational concentrators had attended a postsecondary vocational-technical institution and less than 10 percent had graduated. Over 45 percent of the vocational concentrators had attended a college or university and 13 percent had received an associate degree and over 12 percent had receive a baccalaureate degree. Over 63 percent of the non-vocational concentrators had attended a college or university and 8.4 percent had received an associate degree and over 33 percent had receive a baccalaureate degree.

Five years after graduation from high school, more vocational concentrators were self-employed, fewer were unemployed and fewer were still continuing their education when compared to the non-vocational concentrators. Also, significantly more vocational concentrators were employed in Idaho or surrounding states than were the non-vocational concentrators.

The 1988 self-reported gross incomes indicated no appreciable differential between the non-vocational concentrators and vocational concentrators in current earning power. The occupational vocational concentrators had fewer individuals who earned less than $10,000.

The data indicated the non-vocational concentrators and vocational concentrators had about the same overall level of satisfaction with their current job. Both vocational concentrators and non-vocational concentrators ranked safety conditions, co-workers and the variety of tasks as being characteristics of their current jobs with which they were the most satisfied, and fringe benefits, advancement potential and salary as those characteristics with which they were least satisfied.

Over 50 percent of the vocational concentrators indicated they had received specific formal preparation in high school for their current job. A significantly lower percentage of the non-vocational concentrators indicated they had received specific formal preparation in high school for their current job.

Employers were also asked to rate how well the graduates were prepared for the job for which they were hired. Again, neither the non-vocational concentrators nor the vocational concentrators earned significantly different ratings on selected aspects of job preparedness. Employers rated both groups highest on attendance, cooperativeness, quality of work and dependability while rating both groups lowest on the job preparedness aspects of appearance, safety practices, selection and care of space, materials and supplies and job know-how.

Non-vocational and vocational concentrators received equal ratings from their employers on selected work habits and characteristics and they were rated the highest on integrity, courtesy, responsibility and dependability. Both groups were rated the lowest on personal appearance, attitude toward work, emotional stability and leadership.

COMMENTARY

This study about high school graduates of 1983, established baseline data and information for future comparisons of high school graduates, who concentrate their studies in vocational education with graduates who do not. Future plans of the Division of Vocational Education include long-range, follow-up studies at five year intervals. The long-range studies will be supplemented with annual student follow-up data, provided by vocational teachers in the high schools.

There have been numerous changes in Idaho's public education system since 1983. The effect of the changes should be reflected in future studies. A summary of public education changes that have significantly impacted vocational education since 1983 follows:

New Graduation Requirements

In 1983, the State Board of Education adopted new requirements for high school graduation. The requirements included attainment of a C-average in "core" courses, 6-period school day, 90 percent attendance and increased credit requirements.

The new high school graduation requirements limited student access to many elective courses, including vocational education. As a result, student participation in vocational education declined slightly, but the number of students concentrating in vocational education declined significantly. Many of Idaho high schools increased class periods from six to seven a day; some schools, particularly in Southeast Idaho moved to an 8-period/trimester system. The trimester system provides the greatest vocational education access for students.

Prior to 1983, coursework in agriculture or home economics could be counted for science credit. This option was eliminated with the new graduation requirements.

In 1984, the State Board of Education appointed a Task Force to study the impact of the new graduation requirements on vocational education. A report titled Preparing Idaho Youth for an Uncertain Future, prepared by the Northwest Regional Educational Laboratory, Portland, Oregon, made specific recommendations about the need to include vocational education in the courses

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required for high school graduation. In 1985, the State Board of Education amended the high school graduation requirements to include a provision for up to two credits of practical arts (vocational education, consumer home economics or prevocational industrial arts) coursework to count toward high school graduation.

College University Entrance Standards

In 1987, the State Board of Education also established new requirements for Idaho's four-year college and universities. The requirements did not include a provision for high school vocational education courses to count toward the college/university entrance requirements. The impact was to limit the number of vocational education courses many students took because they feared being unable to enter one of Idaho's four-year institutions.

In 1989, the State Board of Education appointed a task force to review the college/university entrance standards. In September, 1990 the State Board of Education adopted new standards that allow students entering four-year institutions to count two credits of high school vocational education courses toward college entrance. In addition, up to two credits of applied science can be counted towards college entrance. Some agricultural science and technology and industrial technology courses meet the science standards.

Revised Vocational Education Curriculum

Because the high school graduation requirements and the college/university entrance standards have significantly reduced the number of vocational education courses that students may take, the Division of Vocational Education has made substantial revisions in all vocational education courses.

All vocational programs now provide semester-length courses allowing student access at mid-year as well as in the fall. The "Challis Plan" for trades courses, that required seniors to participate in three-hour labs, has been eliminated. Standardized course titles and a course numbering system have been established to ensure that approved vocational courses meet not only high school graduation requirements, but also assure students that have

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participated in approved vocational education offerings may transition into college without loss of credit.

It should be noted that state approved vocational education programs provided through Idaho high schools were available in 103 of the secondary school districts in FY 1990. However, many districts also deliver "shop oriented" courses, which do not meet State Division of Vocational Education approval. Typically, the non-approved courses are a semester or year long in length. They often include industrial arts/wood working/metal shop, agricultural welding, sewing and crafts courses. Local school districts make decisions about what courses to offer; however, since non-approved courses do not meet state standards for vocational education programs, students cannot count the credit toward practical arts credit for graduation or toward the college/university entrance requirements.

Vocational Education in the Public Schools

This study provides considerable information for decision makers in the public schools.

Many students who graduate from Idaho high schools concentrate in college preparatory or general education courses. Of that group over 60% do go on to four year colleges, however, only half of those who go on receive a baccalaureate degree.

Many national critics of education suggest that general education courses should be eliminated entirely causing students to participate in college preparatory or a rigorous vocational and applied technology course. This study suggests the critics may be correct.

Vocational graduates in 1983 were less satisfied with their curriculum than were the non-vocational graduates. Perhaps this may suggest that vocational education students or counselors who referred students to vocational education perceived the program to be the "dumping ground" for those with lesser ability. Perhaps it may also suggest that vocational education continues to have a "second class" image. Regardless, schools must become more involved helping students make appropriate career choices.

Nearly every high school student participates in some vocational education courses; one-third of all students concentrate their studies in vocational education. Perhaps the importance of vocational education in the high school curricula is understated.

Vocational education graduates provide a considerable economic return to Idaho. Vocational graduates are more likely to own small businesses, they are more likely to stay in the state and they are less likely to have below poverty-level jobs than are non-vocational graduates.

Looking to the Future

Consideration for the future of Idaho's economy, like that of the nation, is dependent on a skilled and technically prepared workforce. Idaho's increasingly diverse economy requires a steady supply of new workers for the skilled and technical occupations. Unfortunately, the supply of skilled workers is falling far short of the demand. Some vocational programs in which increased emphasis must be placed are: health related programs, applied science and technology based programs, electronic/electrical related programs and pre-apprenticeship preparation for the construction trades.

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